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Robert E. Malm

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In re Application of:

GREGORY E. JOHNSTON.
ARIE LEVINKRON

Serial Number: 09/059,077

Filing Date: 04/09/98

For: MOBILE SURVEILLANCE SYSTEM

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Group Art Unit: 2712

Examiner: LUONG NGUYEN

Telephone: (703) 308-9297

Commissioner for Patents
Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Transmitted herewith for filing is the appeal brief in triplicate in support of applicant's appeal to the Board of Patent Appeals and Interferences from the decision dated 01/27/05 of the examiner finally rejecting claims 1-11, 14, 15, and 17-25 of the application referenced above.

A check for the filing fee in the amount of \$250 is attached hereto.

The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 and 1.17 which may be required by this paper in excess of the above amount to Deposit Account No. 13-1239. (One additional copy of this Notice is enclosed herewith.)

Respectfully submitted,



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APPEAL BRIEF

Submitted by:

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REAL PARTY IN INTEREST

The real parties in interest are GREGORY E. JOHNSTON, an individual residing at 1528 Monteval Place, San Jose, California, and ARIE LEVINKRON, an individual residing at 7320 Cirrus Way, West Hills, California.

RELATED APPEALS AND INTERFERENCES

The examiner's earlier rejection of all 25 claims was the subject of Appeal No. 2000-1719.

STATUS OF CLAIMS

Claims 1-25 are pending in the application.

Claims 12-13 and 16 are objected to as being dependant upon a rejected claim.

Claims 1-11, 14-15, and 17-25 were rejected and are being appealed.

STATUS OF AMENDMENTS

No amendments were filed subsequent to final rejection of the claims by the examiner.

SUMMARY OF INVENTION

1. A mobile pan and tilt camera and display-control apparatus comprising:
 - a fully rotatable camera attached to a mount assembly that is mounted to a vehicle for capturing mobile images (specification: page 8, last paragraph, lines 1-2);
 - a display-control box having an image display screen and control buttons for controlling said camera and its movement, said display-control box being attached to an adjustable mount in said vehicle within an operator's view and reach (specification: page 8, last paragraph, lines 2-5);
 - an image capture box for receiving said captured mobile images (specification: page 8, last paragraph, lines 5-7).

2. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein full rotation is achieved by mounting said camera to a tilting mechanism mounted on a panning mechanism (specification: page 13, last line, through page 14, line 16).

3. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said mount assembly incorporates a quick disconnect mechanism (specification: page 17, last paragraph through page 18, first paragraph).

4. A mobile pan and tilt camera and display-control apparatus as claimed in claim 3 further comprising a double locking mechanism on said mount assembly where one mechanism

is a security fastener (specification: page 18, first paragraph).

5. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 further comprising a water seal attached to said tilting mechanism (specification: page 19, lines 9-23).

6. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adapted to engage the roof-rack of a vehicle (specification: page 23, first and second complete paragraphs).

7. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adapted to engage a THULE® brand roof rack system (specification: page 16, last paragraph through page 17, first paragraph).

8. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a ball-plunger for self-locking said mount assembly (specification: page 18, first paragraph).

9. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a security fastener as a secondary and operator activated mechanical locking mechanism for said mount assembly (specification: page 18, first paragraph).

10. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 further comprising a singular support for both said panning mechanism and said tilting mechanism and separate drive gears and slip clutches for both said panning mechanism and said tilting mechanism (specification: page 24, last paragraph through page 26, first paragraph).

11. A mobile pan and tilt camera and display-control apparatus as claimed in claim 10 wherein each slip clutch comprises:

a rotationally free gear;
a support housing for gear;
a friction pad co-aligned to said gear between said gear and said support housing;
a wave washer to apply a pressure against said rotationally free gear and said support housing of sufficient force to enable a motor to drive said gear and said support housing to a point where said support housing stops rotating and said rotationally free gear breaks friction of said friction pad while said motor continues to drive without overheating (specification: page 24, last paragraph through page 26, first paragraph).

12. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a camera enclosure with bezel opening that is threaded to accept optical filters and is sealed with an o-ring for moisture blocking (specification: page 13, second paragraph, lines 7-8; page 19, lines 4-6).

13. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1

further comprising a Field of View (FOV) stabilized camera which provides an electronic compensation to overcome mechanical gear backlash and vibration (specification: page 22, first paragraph).

14. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera may be mounted at any angle with respect to gravity (specification: page 21, second paragraph).

15. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a bimetal heat sink for camera power supply temperature control (specification: page 18, second paragraph through page 19, lines 1-3).

16. A mobile pan and tilt camera and display-control apparatus as claimed in claim 12 wherein said camera enclosure is adapted to act as an additional heat sink (specification: page 18, last three lines).

17. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera enclosure incorporates a one-way moisture passage plug with flexible and sealed passage for wires (specification: page 19, lines 9-23).

18. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said display-control box has a set of control buttons positioned to be operated with a

single hand (specification: page 8, last paragraph; page 23, last three lines).

19. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said display-control box has a viewing angle adjustment lever positioned to be operated with said single hand (specification: page 12, second paragraph; page 23, fourth paragraph through page 24, first paragraph).

20. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising an optically clear or tinted sphere enclosing said camera (specification: page 22, second paragraph through page 23, first paragraph).

21. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly mates to a YAKIMA^R brand roof rack system (specification: page 23, third paragraph).

22. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles (specification: page 23, second paragraph).

23. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adaptable to a railroad locomotive attachment (specification: original claim 23).

24. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate for ship-board attachment (specification: original claim 24).

25. A process for viewing a scene with mobile pan or tilt camera of claim 1 comprising the steps of:

mounting said camera to a vehicle for capturing mobile images;

displaying said captured mobile images on an image display screen;

controlling camera position from within said vehicle;

capturing said captured mobile images in an image capture box for storage and transmission of said captured mobile images; and

transmitting said captured mobile images by radio frequency transmission to a data storage server for further processing; and

providing said captured mobile images on internet server for official or consumer access (specification: page 9, first paragraph).

ISSUES

- I. WHETHER CLAIMS 1, 14, 18, AND 19 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al. AND LUCAS et al.
- II. WHETHER CLAIMS 2, 5-6, 10, 22, AND 24 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND KLAPPER et al.
- III. WHETHER CLAIMS 3-4 AND 8-9 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND PADDOCK et al.
- IV. WHETHER CLAIMS 7 AND 21 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., KLAPPER et al., AND SCLATER.
- V. WHETHER CLAIM 11 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., KLAPPER et al., AND KURIAN.
- VI. WHETHER CLAIM 15 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND BAUMEISTER.
- VII. WHETHER CLAIM 17 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND BALKWILL et al.
- VIII. WHETHER CLAIM 20 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND TOVI.
- IX. WHETHER CLAIM 23 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., KLAPPER et al., AND YANG.
- X. WHETHER CLAIM 25 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND KUJIRADA.

GROUPING OF CLAIMS

ISSUE I: Claims 1, 14, 18, 20, stand or fall separately.

ISSUE II: Claims 2, 5, 6, 10, 22, and 24 stand or fall separately.

ISSUE III: Claims 3, 4, 8, and 9 stand or fall separately.

ISSUE IV: Claims 7 and 21 stand or fall separately.

ISSUES V-X: Each issue concerns only one claim, each of which stands or falls separately..

INTRODUCTION

Applicants' invention is a mobile surveillance system comprising (1) a pan-and-tilt video
5 camera attached to a mount assembly for capturing mobile images, (2) a display-control box
having an image display screen and control buttons for controlling the camera and its movement,
and (3) an image capture box for receiving the captured images.

It seems appropriate at this point to review the history of the prosecution of this patent
application. The application was filed on April 9, 1998 and the first office action by Examiner
10 Carramah J. Quiett was mailed on October 23, 1998. The office action was signed by
Supervisory Patent Examiner Wendy Garber, then with Technology Center 2700. There were
16 references cited, and all claims were rejected based on one or more of the cited references.
The applicants provided detailed arguments in the response to the office action for each of the
rejected claims as to why none of the references, either separately or in combination, disclosed
15 the limitations of the claim.

The second office action by Examiner Quiett was mailed on April 14, 1999. The
examiner stated that applicants' arguments in response to the first office action were moot in
view of new grounds of rejection brought about "because claim 1 in the first action was so
unclear, the examiner did not realize an important limitation was neglected." The "new
20 grounds of rejection" were the result of the examiner presumably doing another search and
adding two additional references, not included in the original 16, which the examiner believed
would remedy the problem of the "neglected limitation" of claim 1. Once again, all of the

claims were rejected, and Supervisory Examiner Garber signed the office action. And once again, the applicant provided detailed arguments in the response to the office action for each of the rejected claims as to why none of the references, either separately or in combination, disclose the limitations of the claims.

5 The third and final office action was prepared by a new examiner, Luong Nguyen, who continued the tradition of rejecting all of the claims. The office action was signed by Primary Examiner Tuan Ho and Ms. Garber was still the examiner's supervisor.

10 Since Ms. Garber and her team of examiners could find nothing patentable in applicants' invention, and believing very strongly that there was nothing in the prior art discovered by the examiners which disclosed applicants' invention, applicants appealed to the Board. The Examiner's Answer to applicants' Appeal Brief was authored by Examiner Nguyen and signed by Supervisory Examiner Garber.

15 The Conclusion of the Decision on Appeal was short and sweet: "The decision of the examiner rejecting claims 1 through 25 under 35 U.S.C. § 103 is reversed." Imagine applicants surprise when they then received an office action once again rejecting all 25 claims. The introductory sentence of the office action stated:

"In view of the decision of the Board of Patent Appeals and Interferences rendered on 12/10/2003, PROSECUTION IS HEREBY REOPENED. A non-final Office Action set forth below [sic]."

20 And the text of the Office Action then continued for 13 pages again rejecting all of the claims based on a "newly-discovered" 1983 reference.

Applicants' surprise turned into amazement when they were informed of a passage from the Manual of Patent Examining Procedure (MPEP) § 1214.07, "Reopening of Prosecution", which cited 37 CFR 1.198:

5 "Cases which have been decided by the Board of Patent Appeals and Interferences will not be reopened or reconsidered by the primary examiner except under the provisions of § 1.114 or § 1.196 without the written authority of the Commissioner, and then only for the consideration of matters not already adjudicated, sufficient cause being shown."

10 Section 1.114 has to do with the filing by the applicant of a request for continued examination which applicant did not do. Section 1.196 has to do with aspects of the Board's decision (e.g. new grounds of rejection, specific statement that a claim may be allowed in amended form, remand), none of which arose in the present situation.

15 What, then, would constitute "matters not already adjudicated" that would enable Ms. Garber, the primary examiner, to reopen prosecution and was sufficient cause shown? MPEP § 1214.04 , "Examiner Reversed", states that:

20 "15 If the examiner has specific knowledge of the existence of a particular reference or references which indicate nonpatentability of any of the appealed claims as to which the examiner was reversed, he or she should submit the matter to the Technology Center Director for authorization to reopen prosecution under 37 CFR 1.198 for the purpose of entering the new rejection."

25 It is important at this point to understand the meaning of "prosecution" insofar as the patenting process is concerned. The term "prosecution" encompasses the entire patenting process. For example, "prosecution history" (according to Black's Law Dictionary) means the complete

record of proceedings in the Patent and Trademark Office from the initial application to the issued patent.

"Prosecution" entails "examination" which requires an examiner to "make a thorough investigation of the available prior art relating to the subject matter of the claimed invention."

5 37 CFR 1.104(a)(1). Thus, a reopened prosecution means a reexamination which includes a new search. Thus, when 37 CFR 1.198 states that cases may be reopened only with sufficient cause being shown, it does not mean that the examiner may informally reopen prosecution to perform a new search and if the results of the new search provide sufficient cause, request the Technology Center Director to formally reopen prosecution for the purpose of entering the

10 new rejection.

Once a new search has been initiated, it is certain that an examiner will be able to find a reference on the basis of which he or she can argue the unpatentability of an invention. An example is my client's application which Ms. Garber has argued incorrectly the upatentability of all of the claims after three searches and for three sets of references.

15 The key reference which now provides the basis for rejecting all of my client's claims is Clendenin et al., U.S. Patent 4,386,848 issued on June 7, 1983, some 21 years ago. If Ms. Garber had "specific knowledge of the existence" of this reference, it would seem unlikely that this knowledge was recently acquired, since the patent is so old. And if she in some way became aware of it at an earlier time, why did she not bring it forth during the original 20 prosecution of my client's application? However, the purpose of this appeal is not to answer such questions. Instead, the focus of this appeal must be on Clendenin et al., the newly-

discovered prior art which, provides the bedrock foundation for the latest rejections of all 25 claims for applicants' invention.

Is Clendenin et al. the magic bullet that shoots down applicants' invention? The short answer is no. Applicants claim a "pan and tilt" camera. Clendenin et al. discloses a camera 5 that can be panned but cannot be tilted. On these facts alone, applicants' claim-1 invention is not disclosed by the new prior art and should be patentable.

ARGUMENT

I. WHETHER CLAIMS 1, 14, 18, AND 19 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al. AND 5 LUCAS et al.

CLAIM 1

Claim 1 reads as follows:

10

1. *A mobile pan and tilt camera and display-control apparatus comprising:*

[1] a fully rotatable camera attached to a mount assembly that is mounted to a vehicle for capturing mobile images;

15 *[2] a display-control box having an image display screen and control buttons for controlling said camera and its movement, [3] said display-control box being attached to an adjustable mount in said vehicle within an operator's view and reach;*

[4] an image capture box for receiving said captured mobile images.

Neither of the two references disclose the four limitations shown in boldface in claim 1.

20

Limitation [1]

The examiner argues that Clendenin et al., by itself, discloses a mobile pan and tilt camera. 01/27/05 Office Action, p. 13. Clendenin et al. does not disclose a camera that can both pan and tilt as claim 1 specifies.

25

The examiner responded to the above argument as follows:

"In response, the Examiner considers that Clendenin et al. does disclose this feature. Clendenin et al. discloses the sight assembly 10, which includes television camera pickup system 20, 22, can track an object over $\pm 160^\circ$ in azimuth (pan) and $\pm 15^\circ$ in elevation (tilt), (figure 2, column 6, lines 1-16). This indicates that camera in Clendenin et al. can 5 pan and tilt." 01/27/05 Office Action, p. 2.

The television camera pickup system 20, 22 is installed on the rigid optical bed 11 of the sight assembly 10 in a fixed position and orientation. Clendenin et al., Fig. 5; col. 6, lines 20-24. The camera 22 can be rotated $\pm 160^\circ$ in azimuth (pan) since it is affixed to the sight assembly 10, and the sight assembly 10 can be rotated $\pm 160^\circ$ in azimuth. However, neither the camera 22 nor the 10 sight assembly 10 can be tilted in elevation. The mirror 12 can be rotated in elevation over an angle of $\pm 15^\circ$, but the mirror 12 is neither the camera 22 nor the sight assembly 10. Please see Clendenin et al., col. 2, lines 48-52.

Clendenin et al. does not disclose the fully rotatable camera of limitation [1] which is defined in the preamble as being a camera that can be panned and tilted.

15

Limitation [2]

The examiner argues that Clendenin et al., by itself, discloses a display-control box having an image display screen and control buttons for controlling said camera and its movement. 01/27/05 Office Action, p. 13. Clendenin et al. does not disclose such a display- 20 control box.

Clendenin et al. discloses a control panel assembly 50 containing display monitor 60 and push button switches 68 which control system power, laser power, and the selection of a direct or

stabilized mode of operation. Col. 12, lines 10-14, 27-31. The control buttons contained in control panel assembly 50 do not control the movement of TV camera 22 as specified by limitation [2].

Clendenin et al. discloses a joystick 52, separate from control panel assembly 50, which 5 an operator uses to provide control signals to servo circuits 56 thereby controlling the field of view of the sight assembly 10 in elevation and azimuth by adjusting the elevation and azimuth orientation of stabilized mirror 12. Col. 12, line 42 - col. 13, line 4. When azimuth slewing greater than $\pm 2^\circ$ is required, servo circuits 56 cause the entire sight assembly (including the camera) to be rotated to the required azimuth heading. Col. 12, lines 46-49. Only stabilized 10 mirror 12, NOT the sight assembly (and camera), can be moved in elevation.

Thus, Clendenin et al.'s control panel assembly 50 and joystick 52 (Fig. 10) is not a disclosure of applicants' display-control box for two reasons. First, joystick 52 is incapable of performing the pan and tilt control of Clendenin et al.'s camera as limitation [2] requires. Second, even if joystick 52 could perform the required camera control functions, the joystick 52 control 15 buttons are not part of control panel assembly 50 as limitation [2] requires. Joystick 52 and control panel assembly 50 are separate devices mounted on the same platform (see Fig. 10).

Clendenin et al. does NOT disclose a display-control box having an image display screen and control buttons for controlling said pan and tilt camera and its movement" as specified in claim 1.

20 The examiner responded to the above argument as follows:

"In response, the Examiner considers that Clendenin et al. does disclose this feature.

Clendenin et al. discloses a display-control box (combination of display 60, control panel 50, joystick 52, Figure 10, Column 5, Lines 50-65)" 01/27/05 Office Action, p. 2.

In response to the examiner's assertions, Clendenin et al.'s control panel assembly 50 (Fig. 5 10) corresponds to applicants' "display-control box". Installed in control panel assembly 50 is TV monitor 60 (col. 12, lines 10-11), various switches and indicator lamps 68 (col. 12, lines 27-29), elevation potentiometer 67 and azimuth potentiometer 79 (col. 12, lines 39-41), code select switch 78 (col. 12, line 33), and readouts 75, 76, and 77 (col. 12, lines 36-39).

The examiner INCORRECTLY states that control panel assembly 50 also includes 10 joystick 52 which is used to control the camera and its movement (col. 13, lines 40-63). As was indicated above, joystick 52 does not perform the pan and tilt control functions required to control the fully rotatable camera of limitation [1]. And joystick 52 and control panel assembly 50 are shown in Fig. 10 mounted on the same platform, but there is no disclosure either by words or drawings which suggest that joystick 52 is incorporated in control panel assembly 50 as 15 limitation [2] requires. Thus, there is no disclosure by Clendenin et al. of limitation [2].

Limitation [3]

The examiner argues that Clendenin et al., by itself, discloses a display-control box attached to an adjustable mount (col. 5, lines 55-60). 01/27/05 Office Action, p. 14. The 20 examiner is mistaken.

Clendenin et al. discloses: "A control panel assembly along with electronic units may be mounted in the cabin of a helicopter for use by the operator." Col. 2, lines 5-7. Clendenin et al.

does NOT disclose a "display-control box being attached to an adjustable mount in said vehicle", as specified in claim 1.

The examiner responded to the above argument as follows:

"In response, the Examiner considers that Clendenin et al. does disclose this feature.
5 Clendenin et al. discloses control panel 50 and display 60 are collocated at the operator's position (being attached to an adjustable mount in said vehicle within an operator's view and reach), which may be, for example, in the cabin of the helicopter (Figure 10, column 2, Lines 55-60)." 01/27/05 Office Action, p. 3.

Although Clendenin et al.'s Fig. 10 implies that control panel assembly 50 and joystick 52 are
10 collocated at the operator's position, there is nothing in Clendenin et al. to suggest that the two units are "attached to an adjustable mount in said vehicle."

Clendenin et al. does not disclose limitation [3].

Limitation [4]

15 The examiner argues that Lucas et al. discloses a vehicular-based surveillance system which includes a video recorder (col. 1, lines 50-60, col. 3, lines 10-60) and that it would be obvious to incorporate Lucas et al.'s video recorder in the Clendenin et al.'s laser designation and ranging system "in order to provide own record of events of a person for private purposes, such as for providing proof of insurance claims." 01/27/05 Office Action, p. 14. The examiner's rationale for incorporating Lucas et al.'s video recorder in the Clendenin et al. invention is
20 implausible.

The examiner suggests that it would be obvious to one skilled in the art to incorporate a video recorder disclosed by Lucas et al. in the Clendenin et al. invention. The Clendenin et al. invention is a target designation system intended for use on tanks and helicopters in battlefield situations. Col. 1, lines 58-66, Figs. 2 and 3. The Lucas et al. invention is intended to document law enforcement activities by providing a video recording of an arrest and the circumstances preceding the arrest. Col. 1, lines 13-17. The examiner argues that a person skilled in the art would be motivated to incorporate Lucas et al.'s video recorder in Clendenin et al.'s target designation system "in order to provide own record of events of a person for private purposes, such as for providing proof of insurance claims."

It is unlikely that a person considering ways of improving Clendenin et al.'s battlefield target designation system would be motivated to include a video recorder in order to provide proof of insurance claims.

The examiner did not respond directly to applicants' argument that a person skilled in the art would not be motivated to incorporate Lucas et al.'s video recorder in Clendenin et al.'s target designation system. Instead, he simply stated that "the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art." 01/27/05 Office Action, p. 3.

20

* * * * *

"The legal concept of *prima facie* obviousness is a procedural tool of examination which applies broadly to all arts. . . . The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit

5 evidence of nonobviousness. . . . To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 10 1991)." MPEP § 2142.

15 The prior art cited by the examiner does not disclose the "fully-rotatable camera" limitation and the "display-control box" limitation. Nor does the examiner explain why a person skilled in the art would be so concerned about documenting insurance claims in a battlefield situation as to be motivated to combine Lucas et al.'s image capture box with Clendening et al.'s battlefield target- designation system.

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

25 The prior art cited by the examiner does not disclose the limitations of claim 1. Since the limitations of claim 1 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 1.

CLAIM 14

30 Claim 14 reads as follows:

14. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera may be mounted at any angle with respect to gravity.*

The examiner's rejection of claim 14 is based entirely on Clendenin et al. 01/27/05 Office Action, page 14. Clendenin et al. does not disclose a system wherein the camera can be mounted at any angle with respect to gravity as specified in claim 14. The examiner cites Figs. 2 and 3 as disclosing this feature, but Figs. 2 and 3 only shows the system mounted on a vertical mast attached to a helicopter and tank respectively.

10 The examiner responded to the above argument by stating that "Figures 2 and 3 of Clendenin et al. shows the sight assembly 10, which includes camera, can be mounted on a helicopter or a tank. This also shows that camera can be mounted at different position or angle." 01/27/05 Office Action, page 4.

15 The examiner is clearly mistaken. Clendenin et al.'s Figs. 2 and 3 show only one way in which the sight assembly 10 can be mounted to the masts of the helicopter and tank which are nominally parallel to the gravity vector. This mounting results in the optical axis of camera 22 being normal to the gravity vector and being capable of sweeping out a $\pm 160^\circ$ angle in the azimuthal plane. Clendenin et al., Fig. 5. If camera 22 were mounted "at different position or angle" as the examiner suggests, the Clendenin et al. invention could not scan the azimuthal plane as the inventors intended.

20 Clendenin et al., the only reference cited by the examiner in rejecting claim 14, does not disclose the limitations of claim 14.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since the limitations of claim 14 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

10

The examiner has not established the *prima facie* obviousness of claim 14.

CLAIM 18

Claim 18 reads as follows:

15

18. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said display-control box has a set of control buttons positioned to be operated with a single hand.*

20

Claim 18 states that a set of the claim-1 "control buttons for controlling said camera and its movement" are positioned to be operated with a single hand. The examiner argues that Clendenin et al., the only reference cited for the rejection of claim 18, discloses applicants' "control buttons for controlling said camera and its movement" in Fig. 10 and col. 5, lines 55-60 which states:

25

"The operator, through the use of control panel 50, may control the sight assembly manually to initiate tracking or to place sight assembly 10 into an automatic mode for automatic tracking and to perform other functions."

A more accurate statement of what the operator accomplishes through the use of control panel 50 is:

- The operator, through the use of control panel 50, may select either a manual or an automatic mode of tracking by the sight assembly 10. --

5

The operator has no way of using control panel 50 to "control" (i.e. guide, steer, drive, run, pilot, be in the driver's seat) sight assembly 10 (and TV camera 22) . When one examines Fig. 10, one finds that control panel 50 contains a series of push button switches which control system power, laser power, and the selection of a directed or stabilized mode of control of gyro assembly 14 and 10 azimuth drive motor 32. Clendenin et al., col. 12, lines 29-31, 49-61. Switches which control system power and laser power have nothing to do with controlling the movement of camera 22. Switching between a directed and a stabilized mode of control does not correspond to controlling the movement of camera 22.

In his response to applicants' arguments (01/27/05 Office Action, p. 4), the examiner 15 seems to agree that Clendenin et al. does NOT disclose a set of the claim-1 "control buttons for controlling said camera and its movement" that are part of the control panel 50. Instead, the examiner insists that Clendenin et al.'s joystick 52 is a part of control panel 50 and thereby constitutes a disclosure of the claim-18 limitation. But joystick 52 is not shown to be part of control panel 50 in Fig. 10—it is simply mounted on the same platform that supports control 20 panel 50. Clendenin et al. never discloses in the text of the patent that joystick 52 is part of control panel 50. Joystick 52 is never mentioned in Clendenin et al., col. 12, lines 10-41, which describes control panel 50 in great detail.

5 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

10 The prior art cited by the examiner does not disclose the limitations of claim 18. Since the limitations of claim 18 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

15 The examiner has not established the *prima facie* obviousness of claim 18.

CLAIM 19

15 Claim 19 reads as follows:

19. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said display-control box has a viewing angle adjustment lever positioned to be operated with said single hand.*

20 Clendenin et al. does not disclose a display-control box having a viewing angle adjustment lever positioned to be operated with a single hand as specified by claim 19.

25 The examiner cited only Clendenin et al. (Fig. 10; col. 6, lines 1-15) in rejecting claim 19. 01/27/05 Office Action, p. 14. The passage cited by the examiner says only that the operator "may control the sight assembly manually." Fig. 10 does not show a display-control box having a viewing angle adjustment lever.

The examiner's response to the above argument revealed that he had interpreted "viewing angle" as in some way being associated with the view seen by the camera rather than the orientation of the display-control box with respect to the viewer of the display-control box.

Claim 1 contains the clause "said display-control box being attached to an adjustable 5 mount in said vehicle within an operator's view and reach." Claim 19 further limits this clause by specifying that "said display-control box has a viewing angle adjustment lever positioned to be operated with said single hand."

We reiterate, Clendenin et al. does not disclose a display-control box having a viewing angle adjustment lever positioned to be operated with a single hand as specified by claim 19.

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

15

The prior art cited by the examiner does not disclose the limitations of claim 19. Since the limitations of claim 19 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 19.

20

II. WHETHER CLAIMS 2, 5-6, 10, 22, AND 24 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND KLAPPER et al.

5

CLAIM 2

Claim 2 reads as follows:

2. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein full rotation is achieved by mounting said camera to a tilting mechanism mounted on a panning mechanism.*

The examiner argues that the pan and tilt arrangement of Klapper et al. could be incorporated in Clendenin et al.'s invention, thereby achieving a full-rotation capability of the camera by mounting said camera to a tilting mechanism mounted on a panning mechanism" as specified in claim 2. 01/27/05 Office Action, p. 15.

This modification of Clendenin et al.'s invention would result in the Clendenin et al.'s invention being inoperable. Videcon camera 22 must be in a fixed position relative to optical system 20 in order for the Clendenin et al. system to work and consequently, videcon camera 22 cannot be made fully-rotatable and still preserve the integrity of the Clendenin et al. design.

20 "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)." MPEP § 2143.01.

25 "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d, 123 USPQ 349 (CCPA 1959)." MPEP § 2143.01.

"To establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP § 2142.

Combining the Clendenin et al. and Klapper et al. inventions as suggested by the examiner would result in the Clendenin et al. invention being unsatisfactory for its intended purpose, and consequently there is no suggestion or motivation for making the combination.

The examiner has not established the *prima facie* obviousness of claim 2.

CLAIM 5

Claim 5 reads as follows:

5. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 further comprising a water seal attached to said tilting mechanism.*

The examiner argues that Klapper et al. discloses a water seal attached to said tilting mechanism and cites the water-resistant case disclosed at col. 13, line 65 - col. 14, line 5. 01/27/05 Office Action, p. 15.

Klapper et al. does not disclose a water seal attached to the tilting mechanism (see Fig. 3). The passage cited by the examiner (col. 13, lines 65-67) states that "[t]he camera 1104 again preferably uses uncooled detectors, high-speed, precision reflective optics, and signal processing

electronics housed in a compact, water-resistant case." A "water-resistant case" is not a "water seal attached to the tilting mechanism."

The examiner's response to applicants' arguments was as follows:

"In response, the Examiner considers that Klapper et al. does disclose this feature.
5 Clapper et al. discloses camera 1104 uses a water-resistant case, and camera 1104 is mounted by a positioning mechanism 1105 providing tilting and panning mechanisms (Figure 16, Column 13, Line 65 - Column 14, Line 5). 01/27/05 Office Action, p. 6.

The examiner seems to be saying that a camera housed in a water-resistant case 1 which is mounted to pointing mechanism 500 (see Fig. 2) implies that there is a water seal where the 10 camera and case attaches to the pointing mechanism. However, no such water seal is shown in the drawing (see Fig. 3), and no such water seal is described (see col. 4, line 52 - col. 5, line 67).

Even if Klapper et al. had disclosed a water seal attached to the tilting mechanism, it would be irrelevant since incorporating Klapper et al.'s pan and tilt mechanism (including a water seal) in the Clenedenin et al. invention would make the Clenedenin et al. invention unsatisfactory 15 for its intended purpose.

"**If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.** *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)." MPEP § 2143.01.

20 "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d, 123 USPQ 349 (CCPA 1959)." MPEP § 2143.01.

25 "To establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

MPEP § 2142.

Combining the Clendenin et al. and Klapper et al. inventions (including a water seal, if one had been disclosed) as suggested by the examiner would result in the Clendenin et al. invention being 5 unsatisfactory for its intended purpose, and consequently there is no suggestion or motivation for making the combination.

The examiner has not established the *prima facie* obviousness of claim 5.

CLAIM 6

10

Claim 6 reads as follows:

6. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adapted to engage the roof-rack of a vehicle.*

15

Applicants in claim 6 claim "a mobile pan and tilt camera and display-control apparatus as claimed in claim 2 **wherein said mount assembly is adapted to engage the roof-rack of a vehicle.**"

The question that must be answered before considering the prior art is the meaning of the term "roof-rack of a vehicle".

20

"A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art." MPEP § 2173.01.

25

The dictionary definition of "rack" is "a framework on which articles or materials are arranged or deposited." *The Random House College Dictionary, Revised Edition*, Random

House, Inc., New York, N.Y. (1988). By standard grammatical construction, a "roof-rack" is a rack located on a roof. A "roof-rack of a vehicle" is a rack that attaches to the roof of a vehicle and on which can be placed a variety of different articles or materials. Well-known engineering principles and cost efficiency dictate the structure of a roof rack to be based on two spaced-apart 5 members that can be fastened to a vehicle roof and to which different articles (such as luggage carriers, bicycles, etc.) can be attached. Such vehicle roof racks are a standard commodity exemplified by Thule^R-brand and Yakima^R-brand roof racks. Specification, pp. 16-17, 23.

The claim language "said mount assembly is **adapted to engage** the roof-rack of a vehicle" suggests that the mount assembly is designed to mount on a more-or-less general-purpose roof-rack without change to the roof-rack. The expression "adapted to" is typically used 10 in claims to express the idea that the design of an invention is adjusted to match an existing design of some other object. *See In re Venezia*, 189 USPQ 149 (CCPA 1976).

The examiner cites Klapper et al. as disclosing applicants' "mount assembly . . . adapted to engage a roof-rack of a vehicle". But that is not what Klapper et al. discloses. Klapper et al. 15 discloses custom "mounting hardware 1012" that can secure a camera to the roof of a vehicle—not to the roof-rack of the vehicle. Klapper et al., col. 3, lines 48-53; col. 4, lines 1-4. Klapper et al.'s "mounting hardware 1012" consists of a single member that is incapable of serving as a "roof-rack"—"a framework on which articles or materials are arranged or deposited." Klapper et al.'s "mounting hardware 1012" is custom-designed to mate with Klapper et al.'s "pointing mechanism 500". Klapper et al.'s "pointing mechanism 500" is not adapted to engage the 20 traditional vehicle roof-rack.

Klapper et al. does not disclose a camera having a mount assembly that is adapted to

engage the roof-rack of a vehicle.

5 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

Since none of the cited references disclose a "mount assembly adapted to engage a roof-rack of a vehicle", *prima facie* obviousness has not been established for claim 6.

10

CLAIM 10

Claim 10 reads as follows:

10. *[1] A mobile pan and tilt camera and display-control apparatus as claimed in*
15 *claim 2 further comprising a singular support for both said panning mechanism and said*
tilting mechanism and [2] separate drive gears and slip clutches for both said panning
mechanism and said tilting mechanism.

None of the references cited by the examiner disclose the limitations shown in bold face.

20

Limitation [1]

The examiner cites Klapper et al. as having disclosed applicants' claim-10 "singular support for both pan and tilt mechanisms" and identifies the "singular support" of the tilt mechanism as being tilt drive gear 522 and the "singular support" of the panning mechanism as being pan drive motor gear 544, both shown in Fig. 3 and described at col. 5, lines 12-15 and 25 lines 45-46. 01/27/05 Office Action, p. 15.

The examiner incorrectly attributes support of Klapper et al.'s tilting mechanism to drive gear 522 and support of the panning mechanism to pan drive motor gear 544. In fact, Klapper et al.'s tilting mechanism consists of first and second trunnions 512 and 514 and first and second tilt bearings 516 and 518. First and second trunnions 512 and 514 are attached to the night vision camera 1 and are rotatably attached to panning mechanism 510 by first and second tilt bearings 516 and 518. Klapper et al., col. 4, line 52 - col. 5, line 5. The tilt gimbal 502 supports the tilting mechanism and the camera by providing support for the first and second tilt bearings 516 and 518. Since the tilt gimbal 502 supports the tilting mechanism at two separated and distinct points, it does not provide singular support. The examiner's theory that the tilting mechanism is 10 singularly supported by tilt drive gear 522 is wrong because there is nothing for the tilt drive gear 522 to push against in providing such support. The tilt drive gear 522 is coupled to the tilt gimbal by the tilt motor gear 524 which only supplies a torque to the tilt drive gear 522—not a support force.

With respect to the support of the panning mechanism in the Klapper et al. invention, the 15 panning mechanism consists of the aforementioned tilt gimbal housing 510 and pan bearing 534. The pan housing 538 provides singular support to the panning mechanism through pan bearing 534. The examiner is incorrect in asserting that support of the panning mechanism is provided by pan drive motor gear 544. Pan drive motor gear 544 only applies a torque to pan gear 546 and provides no support for gimbal housing 510.

Limitation [2]

The examiner asserts that a slip ring and brush is the same as a slip clutch and since Klapper et al. discloses a slip ring and brush for both the panning mechanism and the tilting mechanism, Klapper et al. discloses a slip clutch for both mechanisms. 01/27/05 Office Action, 5 pp. 15-16.

There are two problems with the examiner's assertion. A slip ring and brush is NOT the same as a slip clutch, and even if they were the same, Klapper et al. discloses a slip ring and brush assembly 536 for only the panning mechanism (col. 5, lines 31-37).

10 A slip ring and brush is "a conductive rotating ring which, in combination with a stationary brush, provides a continuous electrical connection between rotating and stationary conductors." McGraw-Hill Dictionary of Scientific and Technical Terms, Fourth Edition, Sybil P. Parker, Editor in Chief, McGraw-Hill, Inc., New York, N.Y. (1989), *see* "slip ring".

15 A clutch is "a machine element for the connection and disconnection of shafts in equipment drives, especially when running." A slip clutch is a clutch "designed to slip when too much power is applied to it." McGraw-Hill Dictionary of Scientific and Technical Terms, Fourth Edition, Sybil P. Parker, Editor in Chief, McGraw-Hill, Inc., New York, N.Y. (1989), *see* "clutch" and "slip friction clutch".

A "slip ring and brush" is NOT a "slip clutch" and the examiner errs when he asserts that they are. Klapper et al. does not disclose the use of any "slip clutches".

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

The prior art cited by the examiner does not disclose the limitations of claim 10. Since the limitations of claim 10 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

5 The examiner has not established the *prima facie* obviousness of claim 10.

CLAIM 22

Claim 22 reads as follows:

10 22. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles.*

The examiner cites Klapper et al. as disclosing applicants' mount assembly as including 15 an adapter plate to mate to a light bar used on emergency and patrol guard vehicles as specified in claim 22. 01/27/05 Office Action, p. 16.

Klapper et al. does not disclose a camera having a mounting assembly which includes an adapter plate to mate to light bars used on emergency and patrol guard vehicles. Klapper et al. discloses custom mounting hardware 1012 that can secure a camera to the roof of a vehicle—not 20 to the light bar of the vehicle. Col. 3, lines 48-50; Col. 4, lines 1-4. The "custom" nature of the mounting hardware is indicated by the center support 1014 which has mounting holes that match the pointing mechanism 500. Klapper et al.'s night vision camera 1 and pointing mechanism 500 are not adapted for mounting to light bars on emergency vehicles. Fig. 1 does not show a light

bar on the automobile and Fig. 2 shows mounting hardware for mounting Klapper et al.'s night vision system to a car's roof, not to a light bar. Col. 1, lines 25-27, does not say anything about mounting Klapper et al.'s night vision system to a light bar.

The examiner responded to the above argument by stating that "Applicants recited the 5 limitation 'a mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol gurard vehicles'. The claim only recited 'a light bar'. Therefore, the Examiner considers that the mounting hardware 1024 as shown in Figure 2 reads on claim 22." 01/27/05 Office Action, p. 7.

The examiner is mistaken. The claim does not just recite "a light bar". Even if the claim 10 had not included the words "used on emergency and patrol guard vehicles", the conclusion would be the same. Klapper et al. discloses custom mounting hardware 1012 that can secure a camera to the roof of a vehicle—not to the light bar of the vehicle." The custom mounting hardware 1012 disclosed by Klapper et al. (see Fig. 2) is not "an adapter plate to mate to a light bar." Klapper et al. does not disclose the limitations of claim 22.

15 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

20 "To establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." 25 MPEP § 2142.

The prior art cited by the examiner does not disclose the limitations of claim 22. Since the limitations of claim 22 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 22.

5

CLAIM 24

Claim 24 reads as follows:

24. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2*
10 *wherein said mount assembly includes an adapter plate for ship-board attachment.*

Klapper et al. does not disclose a mount assembly which includes an adapter plate for ship-board attachment. Fig. 15 which was cited by the examiner as such a disclosure (01/27/05 Office Action, p. 16) does not show an adapter plate nor does the discussion of Fig. 15 (col. 13, 15 lines 41-52) disclose an adapter plate.

The examiner's responded to this argument by arguing that "Klapper et al. discloses a night vision camera 1101 mounted below the bridge of a marine vessel 1103. Therefore, this reads on 'a mount assembly which includes an adapter plate for ship-board attachment'." 01/27/05 Office Action, p. 8.

20 A disclosure that "a night vision camera 1101 is mounted below the bridge of a marine vessel 1103" is not a disclosure of "a mount assembly which includes an adapter plate for ship-board attachment."

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981,

180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

5 "To establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP § 2142.

10

The prior art cited by the examiner does not disclose the limitations of claim 24. Since the limitations of claim 24 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 24.

III. WHETHER CLAIMS 3-4 AND 8-9 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND PADDOCK et al.

5

CLAIM 3

Claim 3 reads as follows:

3. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said mount assembly incorporates a quick disconnect mechanism.*

10

The examiner asserts that Paddock et al. discloses applicants' quick disconnect mechanism which is not disclosed by the other references cited by the examiner. 01/27/05 Office Action, p. 16.

15 Paddock et al. does not disclose a mount assembly which incorporates a quick disconnect mechanism which allows the mount assembly to be quickly disconnected from the vehicle to which it is attached. The mount assembly referred to in claim 3 corresponds to Paddock et al.'s camera support system which includes support apparatus 10 (which attaches to an operator) and camera support 20. Paddock et al.'s "operator" corresponds to applicants' "vehicle". Paddock et al. does not disclose a quick disconnect mechanism which allows the support apparatus 10 to be 20 quickly disconnected from the operator.

20 The examiner cites a quick release mechanism which quickly disconnects the camera from a mount assembly (01/27/05 Office Action, p. 16), but this is not the quick disconnect mechanism which quickly disconnects the mount assembly from the vehicle as specified in claim 3.

Even if Paddock et al. has disclosed a quick disconnect mechanism incorporated in the mount assembly, there is no motivation for a person skilled in the art to incorporate such a quick disconnect mechanism in the Clendenin et al. invention that would allow the mast to be quickly disconnected from the helicopter or tank. The examiner argues that such a quick disconnect 5 would save time (01/27/05 Office Action, p. 16), but if saving time is so important in this context, why is there no hint of the need for saving time in any of the references?

The examiner's response to the lack-of-motivation argument was to write that "the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, 10 suggestion, or motivation to so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art." 01/27/05 Office Action, p. 8. The examiner was apparently unable, however, to point out where the requisite "teaching, suggestion, or motivation" might be found.

15 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

20 "To establish a *prima facie* case of obviousness, . . . there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP § 2142.

25

The prior art cited by the examiner does not disclose the limitations of claim 3. Even if Paddock et al. had disclosed a quick-disconnect feature for the mount assembly, the examiner has

not presented a convincing argument as to why a person skilled in the art would be motivated to combine such disparate inventions as Clendenin et al. and Paddock et al.

The examiner has not established the *prima facie* obviousness of claim 3.

5

CLAIM 4

Claim 4 reads as follows:

4. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 3 further comprising a double locking mechanism on said mount assembly where one mechanism 10 is a security fastener.*

Paddock et al. does not disclose a quick disconnect feature for the mount assembly (see discussion under the claim-3 heading), let alone a double locking feature for the quick disconnect feature. Paddock et al. does disclose a quick disconnect feature associated with Paddock et al.'s 15 camera, but even if this quick disconnect feature qualified as a disclosure of the quick disconnect feature specified in claim 3, it does not disclose the double locking mechanism of claim 4.

The examiner argues that the two pins 76 and locking screw 77 (Paddock et al., col. 7, lines 26-45) constitute a double locking mechanism. However, Paddock et al. states:

"The quick release mechanism, when it is open, allows the mounting plate to be mounted 20 to the adjustable platform. When the locking screw is loosened, the quick release mechanism slidably secures the mounting plate to the adjustable platform. When the locking screw is tightened, the quick release mechanism secures the mounting plate to the adjustable platform." Paddock et al., col. 3, lines 60-67

Note that when the locking screw is loosened, the quick release mechanism slidably secures the mounting plate to the adjustable platform. The mounting plate is not locked to the adjustable platform if it is slidably secured. Thus, the locking screw is the only means provided for locking the mounting plate to the platform.

5 Paddock et al. does not disclose a double-locking quick release mechanism.

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

The prior art cited by the examiner does not disclose the limitations of claim 4. Since the limitations of claim 4 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

15 The examiner has not established the *prima facie* obviousness of claim 4.

CLAIM 8

Claim 8 reads as follows:

20 8. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a ball-plunger for self-locking said mount assembly*

The examiner cites Paddock et al. (col. 7, lines 27-30) as disclosing applicants' "ball-plunger for self-locking said mount assembly." 01/27/05 Office Action, p. 17. However,

25 Paddock et al. states:

"The ball-plunger 80 of the screw 79 engages one of the notches 81, . . . , of the cam lever 73 when the cam lever 73 is in its closed position . . . in order to provide a stop therefor. When the cam lever 73 is in its open position . . . the ball-plunger 80 of the screw 79 engages the other notch 81, . . . , of the cam lever 73 in order to provide a stop therefor." Paddock et al., col. 7, lines 37-45.

5 Providing a "stop" is not the same as performing a "self-locking" function.

The examiner responded to the above argument by again stating that "Paddock et al. discloses ball-plunger for self-locking said mount assembly." 01/27/05 Office Action, p. 9. He 10 made no attempt to counter applicants' argument that providing a "stop" is NOT the same as performing a "self-locking" function.

15 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

20 The prior art cited by the examiner does not disclose the limitations of claim 8. Since the limitations of claim 8 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 8.

CLAIM 9

25 Claim 9 reads as follows:

9. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a security fastener as a secondary and operator activated mechanical locking mechanism for said mount assembly.*

5 The examiner relies on Paddock et al. as having disclosed applicants' "security fastener as a secondary and operator activated mechanical locking mechanism for said mount assembly". 01/27/05 Office Action, p. 17.

Paddock et al. does not disclose a mount assembly which incorporates a secondary and operator activated mechanical locking mechanism which guards against the unauthorized removal of the camera and mount assembly from a vehicle. The mount assembly referred to in 10 claim 1 corresponds to Paddock et al.'s camera support system which includes support apparatus 10 (which attaches to an operator) and camera support 20. Paddock et al.'s "operator" corresponds to applicants' "vehicle". Paddock et al. does not disclose any "secondary and operator activated mechanical locking mechanism" which prevents the unauthorized removal of 15 the support apparatus 10 from the operator.

Even though claim 9 is concerned with a locking mechanism for said mount assembly, the examiner seems to ignore "for said mount assembly" and focuses on locking mechanisms for Paddock et al.'s camera. The examiner identifies two pins 76 and locking screw 77 in a quick release mechanism associated with Paddock et al.'s camera (col. 7, lines 26-45) as being a 20 disclosure of applicants' claim-9 limitation. 01/27/05 Office Action, p. 17.

Claim 9 specifies "a security fastener as a secondary and operator activated mechanical locking mechanism." Paddock et al.'s "locking screw 77" is not a security fastener (releasable

only with a special key). Also, since Paddock et al. does not disclose a double locking mechanism (see claim 4 discussion above), Paddock et al. also does not disclose applicants' "security fastener as a secondary and operator activated mechanical locking mechanism."

The examiner's response to the above arguments was simply to state that Paddock et al.'s locking screw 77 constitutes a disclosure of applicants' claim-9 limitation. 01/17/05 Office Action, pp. 9-10. As explained above, it does not.

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

15 The prior art cited by the examiner does not disclose the limitations of claim 9. Since the limitations of claim 9 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 9.

IV. WHETHER CLAIMS 7 AND 21 ARE UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., KLAPPER et al., AND SCLATER.

5

CLAIM 7

Claim 7 reads as follows:

7. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adapted to engage a THULE® brand roof rack system.*

10

The examiner cites Sclater (col. 3, lines 45-53) as disclosing applicants' mount assembly adapted to engage a THULE® brand roof rack system as specified in claim 7. 01/27/05 Office Action, p. 18.

Sclater does not disclose how to mount anything remotely like applicants' mount assembly on a THULE® brand roof rack system. Sclater discloses how a collapsible frame assembly can be attached to a PAIR of THULE® or YAKIMA® roof-top carriers using commercially-available parts:

"The collapsible frame assembly 10, placed into a carrier pocket 32 (an accessory such as, for example, a ski carrier) of the universal carrier mounting 14 and is secured by a suitable means therein. Each of the universal carrier mountings 14 has straps 26 which tighten and position the universal carrier mounting 14 on the roof-top of the vehicle 12 and may further be used to secure secondarily the collapsible frame assembly 10 to the universal carrier mounting 14." Col. 3, lines 50-59.

Tying down a collapsible frame assembly to a pair of roof-rack carriers is not a disclosure of something like applicants' mount assembly being adapted to engage a THULE® brand roof-rack system.

The examiner's response to the above argument was to reiterate his original conclusion
5 that "Sclater discloses a vehicular roof-top collapsible display frame assembly for mobile advertising, which uses the well-known "Thule" or "Yakima" trademarked roof-top carriers (Column 3, Lines 45-53)." 01/27/05 Office Action, p. 10.

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

15 The prior art cited by the examiner does not disclose the limitations of claim 7. Since the limitations of claim 7 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 7.

CLAIM 21

20

Claim 21 reads as follows:

21. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly mates to a YAKIMA® brand roof rack system.*

The examiner cites Sclater (col. 3, lines 45-53) as disclosing the mating of applicants' mount assembly to a YAKIMA® brand roof rack system as specified in claim 21. 01/27/05 Office Action, pp. 17-18.

Sclater does not disclose how to mate anything remotely like applicants' mount assembly 5 to a YAKIMA® brand roof rack system. Sclater discloses how a collapsible frame assembly can be attached to a PAIR of THULE® or YAKIMA® roof-top carriers using commercially-available parts:

"The collapsible frame assembly 10, placed into a carrier pocket 32 (an accessory such as, 10 for example, a ski carrier) of the universal carrier mounting 14 and is secured by a suitable means therein. Each of the universal carrier mountings 14 has straps 26 which tighten and position the universal carrier mounting 14 on the roof-top of the vehicle 12 and may further be used to secure secondarily the collapsible frame assembly 10 to the universal carrier mounting 14." Col. 3, lines 50-59.

Tying down a collapsible frame assembly to a pair of roof-rack carriers is not a disclosure of 15 something like applicants' mount assembly being mated to a YAKIMA® brand-roof rack system.

The examiner's response to the above argument was to reiterate his original conclusion that "Sclater discloses a vehicular roof-top collapsible display frame assembly for mobile advertising, which uses the well-known "Thule" or "Yakima" trademarked roof-top carriers (Column 3, Lines 45-53)." 01/27/05 Office Action, p. 10.

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

The prior art cited by the examiner does not disclose the limitations of claim 21. Since the limitations of claim 21 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

5 The examiner has not established the *prima facie* obviousness of claim 21.

V. WHETHER CLAIM 11 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., KLAPPER et al., AND KURIAN.

5

CLAIM 11

Claim 11 reads as follows:

11. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 10 wherein each slip clutch comprises:*

10 *a rotationally free gear;*
 a support housing for gear;
 a friction pad co-aligned to said gear between said gear and said support housing;
 a wave washer to apply a pressure against said rotationally free gear and said support housing of sufficient force to enable a motor to drive said gear and said support housing to a point where said support housing stops rotating and said rotationally free gear breaks friction of said friction pad while said motor continues to drive without overheating.

15 The examiner argues that alone among the cited references, "Kurian discloses an adjustable free motion friction clutch, which has a free rotation control, a friction disc 16, washer 20 24 (Figures 1-2, 5, Column 2, Lines 30-67)." 01/27/05 Office Action, p. 18.

Kurian does not disclose (see Figs. 1, 2) a slip clutch comprising (1) a rotationally free gear, (2) a support housing for gear, (3) a friction pad co-aligned to said gear between said gear and said support housing, and (4) a wave washer to apply a pressure against said rotationally free gear and said support housing of sufficient force to enable a motor to drive said gear and said

support housing to a point where said support housing stops rotating and said rotationally free gear breaks friction of said friction pad while said motor continues to drive without overheating.

The examiner's response to the above argument was simply to reiterate his original conclusion: "Kurian discloses an adjustable free motion friction clutch, which has a free rotation control, a friction disc 16, washer 24 (Figures 1-2, 5, Column 2, Lines 30-67)." 01/27/05 Office Action, p. 11.

The examiner was unable to find in Kurian a rotationally free gear, a support housing for the gear, and a wave washer. The examiner found a friction disc (or pad) but its location vis-à-vis a gear and a support housing is not disclosed since neither a gear nor a support housing is disclosed by Kurian.

The limitations of claim 11 are not disclosed by Kurian.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

The prior art cited by the examiner does not disclose the limitations of claim 11. Since the limitations of claim 11 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 11.

VI. WHETHER CLAIM 15 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND BAUMEISTER.

5

CLAIM 15

Claim 15 reads as follows:

15. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a bimetal heat sink for camera power supply temperature control.*

10 The examiner argues that Baumeister's disclosure of "heat sink 14 support cooler 10 for cooling imager chip 8 (Figure 2, Column 3, Lines 55-63)" is a disclosure of the claim-15 limitation. 01/27/05 Office Action, p. 19.

Baumeister does not disclose a BIMETAL heat sink as specified in claim 15.

15 The examiner's response to applicants' argument was simply to reiterate his original rationale for rejecting claim 15: "Baumeister discloses heat sink 14 which supports cooler 10 for cooling imager chip 8." 01/27/05 Office Action, p. 11.

20 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

25 The examiner ignores the "bimetal" modifier of "heat sink" in claim 15. Baumeister's heat sink 14 is simply a structural member (presumably made of a heat-conductive material) for supporting cooler 10 with no indication of a bimetal construction. Baumeister's support member 14 is not a disclosure of applicants bimetal heat sink

The prior art cited by the examiner does not disclose the limitations of claim 15. Since the limitations of claim 15 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 15.

VII. WHETHER CLAIM 17 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND BALKWILL et al.

5

CLAIM 17

Claim 17 reads as follows:

17. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera enclosure incorporates a one-way moisture passage plug with flexible and 10 sealed passage for wires.*

The examiner cites Balkwill et al. as disclosing applicants' camera enclosure that "incorporates a one-way moisture passage plug with flexible and sealed passage for wires." 01/27/05 Office Action, p. 19.

15 First of all, Balkwill et al. is not analogous art:

20 "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). MPEP § 2141.01(a).

25 The subject matter of Balkwill et al. are electrical boxes for installation in the walls and ceilings of buildings. Balkwill et al.'s invention concerns an electrical box cover which prevents air, water, or moisture from passing through or around the electrical box when installed in a wall or ceiling.

Applicants' invention is concerned with a means for allowing the one-way passage of moisture from a camera enclosure.

"A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992). MPEP § 2141.01(a).

Allowing only the one-way passage of moisture through or around an electrical box in a wall or ceiling of a building is not a problem encountered by building architects. Thus, the Balkwill et al. disclosure is not a reference that would have commended itself to an inventor's attention in considering his problem, and the subject matter of Balkwill et al. is therefore not analogous art.

Even if Balkwill et al. is considered to be analogous art, it does not disclose applicants' claim-17 invention. Balkwill et al.'s invention is described as follows:

"The present invention provides a cover for an electrical box having a fastening flange extending outwardly therefrom to be fastened to a structural member in the wall or ceiling. The cover extends completely around the side walls and the back wall of the box and has a flexible, thin-wall flange slanting away from the cover so that the peripheral edge of the flange can tightly contact the back surface of the wall or ceiling panel in which the box is mounted. In this manner, air and water or moisture are prevented from entering through the box itself and also around the box through the opening in the wall or ceiling in which the box is mounted. Similarly, heated air is prevented from escaping."

Balkwill et al., col. 1, lines 28-40.

The Balkwill et al. invention whereby "air and water or moisture are prevented from entering through the box itself and also around the box through the opening in the wall or ceiling in which

the box is mounted" does not prevent "air and water or moisture" from exiting the box. Thus, Balkwill et al. does not disclose a one-way moisture passage plug with flexible and sealed passage for wires as specified by claim 17.

The examiner's response to the above argument was to reiterate his original rationale for
5 rejecting claim 17: "The Examiner considers that Balkwill et al. does disclose this feature. Balkwill et al. discloses an electrical box, which prevents moisture from entering the box."

01/27/05 Office Action, p. 11.

10 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

The prior art cited by the examiner does not disclose the limitations of claim 17. Since
15 the limitations of claim 17 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 17.

VIII. WHETHER CLAIM 20 IS UNPATENTABLE UNDER 35 U.S.C.
§ 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND TOVI.

5

CLAIM 20

Claim 20 reads as follows:

20. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising an optically clear or tinted sphere enclosing said camera.*

10

The examiner cites Tovi as disclosing "a transparent globe 12, which contains camera 30 (Figure 2, Column 4, Line 63 - Column 5, Line 29)." 01/27/05 Office Action, p. 20.

Tovi does not disclose an optically clear or tinted sphere enclosing a camera as specified in claim 20. Tovi discloses a globe 12 which is coated with matte or glossy black paint 58 over 15 a large portion of the interior of the globe. Col. 5, lines 25-28. Black paint does not produce a clear or tinted sphere.

The examiner responded to the above argument by stating that he "considers that Tovi does disclose this feature. Tovi discloses globe 12 is transparent at the lower part of the globe with the transparent film 56 (see Figure 2, Column 5, Lines 21-25). It is noted that the black 20 paint 58 is only provided on the interior at the upper part of the globe 12, not covered the whole interior of the globe 12." 01/27/05 Office Action, p. 12.

The examiner reads the limitation of claim 20 as *further comprising a sphere enclosing said camera, the sphere being at least partially optically clear or tinted.* But this is not the

limitation of Claim 20. The plain meaning of claim 20 is that the sphere in its entirety is optically clear or tinted, and Tovi does not disclose such a sphere.

5 "**To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970).**" MPEP § 2143.03.

10 The prior art cited by the examiner does not disclose the limitations of claim 20. Since the limitations of claim 20 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

10 The examiner has not established the *prima facie* obviousness of claim 20.

IX. WHETHER CLAIM 23 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., KLAPPER et al., AND YANG.

5

CLAIM 23

Claim 23 reads as follows:

23. *A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
10 wherein said mount assembly is adaptable to a rail road locomotive attachment.*

The examiner cites Yang as disclosing "a video surveillance train car, which includes camera 138 (Figure 17, Column 8, Lines 1-5). 01/27/05 Office Action, p. 20.

Yang does not disclose a camera mount assembly which is adaptable to a railroad
15 locomotive attachment as specified in claim 23.

The examiner cites Fig. 17 and col. 8, lines 1-5 as disclosing this limitation but
apparently overlooked col. 7, lines 67-68, which together with the material cited by the examiner
states that "video surveillance system 132 comprises a video transmitter 134 on board
20 SATELLITE CAR 12 . . . [which] comprises a camera 138. Nothing is said about the camera
mounting system being adaptable to mounting on the satellite car 12 let alone to mounting on the
locomotive of train 10.

The examiner's response to the above argument was to reiterate his original rationale for
rejecting claim 23: "The Examiner considers that Yang does disclose this feature. Yang
discloses a video surveillance train car, which includes camera 138 (Figure 17, Column 8, Lines
25 1-5). This reads on the limitation in claim 23." 01/27/05 Office Action, p. 12.

Yang DID disclose camera 138 but DID NOT disclose anything regarding *said mount assembly being adaptable to a rail road locomotive attachment.*

5 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

10 The prior art cited by the examiner does not disclose the limitations of claim 23. Since the limitations of claim 23 are not disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 23.

X. WHETHER CLAIM 25 IS UNPATENTABLE UNDER 35 U.S.C. § 103(a) IN VIEW OF CLENDENIN et al., LUCAS et al., AND KUJIRADA.

5

CLAIM 25

Claim 25 reads as follows:

25. *A process for viewing a scene with mobile pan or tilt camera of claim 1 comprising the steps of:*

10 **[1] mounting said camera to a vehicle for capturing mobile images;**
 displaying said captured mobile images on an image display screen;
 [2] controlling camera position from within said vehicle;
 capturing said captured mobile images in an image capture box for storage and transmission of said captured mobile images; and
 [3] transmitting said captured mobile images by radio frequency transmission to a data storage server for further processing; and
 [4] providing said captured mobile images on internet server for official or consumer access.

20 The prior art cited by the examiner does not disclose the limitations in boldface.

Limitation [1]

The examiner cites Clendenin et al. as disclosing the step of mounting applicants' claim-1 pan and tilt camera to a vehicle (Col. 5, lines 49-60). 01/27/05 Office Action, p. 21.

But the mounting process described by Clendenin et al. is completely different from that performed by the user of the claim-1 camera. The mounting process envisioned by Clendenin et al. involves a camera augmented with a laser designation and ranging capability and including automated tracking of a target. Col. 1, lines 58-62. The things involved in the mounting process 5 is described in the following words:

"The invention includes a lightweight sight assembly that may be mast mounted above the plane of the rotors of a helicopter without affecting the performance of the aircraft. The system includes the sight assembly rotatably mounted on a mast and having an aerodynamic housing. An optical bed is disposed in the housing and mounts a gyro 10 stabilized mirror assembly, a laser designator and ranger assembly, and a TV camera. One optical system is provided, common to the laser and TV camera, while a second optical system is utilized by the TV camera. A control panel assembly along with electronic units may be mounted in the cabin of a helicopter for use by the operator. The electronics portion contains electronic controls for the tracking system, electronic controls 15 for servos which control the movement of the sight components for locating targets, stabilizing the optical system, and for automatic tracking of a target. The control panel includes a television monitor screen, system control switches and indicators, and manual control knobs. Also, visual displays of the line of sight attitude of the sight assembly, and the range to a target are provided. Additionally, a manual track joy stick is provided 20 which permits the operator to control the sight assembly manually when desired." Col. 1, line 62 - col. 2, line 18.

Compare the mounting of the Clendenin et al. hardware with the mounting of applicants'

invention wherein the mount assembly, to which the pan and tilt camera is attached, is mounted on a vehicle.

Clendenin et al. discloses mounting a sight assembly to the mast of helicopter, the sight assembly consisting of an optical bed disposed in the housing to which is mounted a gyro 5 stabilized mirror assembly, a laser designator and ranger assembly, a TV camera, a first optical system common to the laser and TV camera, and a second optical system utilized by the TV camera. The disclosure of the mounting of this complicated device to a mast extending above the rotor blades of a helicopter is not a disclosure of the mounting of a camera attached to a pan and tilt mechanism to a vehicle.

10

Limitation [2]

The examiner cites Clendenin et al. as disclosing the step of controlling the position of applicants' claim-1 pan and tilt camera (Col. 5, lines 55-58): "Control panel 50 and 60 are collocated at the operator's position which may be for example, in the cabin of a helicopter. The 15 operator, through the use of control panel 50, may control the sight assembly manually to initiate tracking or to place sight assembly 10 into an automatic mode for automatic tracking and to perform other functions." Col. 5, lines 55-61.

"Controlling the sight assembly" is not the same as controlling the position of the camera, as specified by limitation [2].

20 The operator of the Clendenin et al. camera system controls the position of stabilized mirror 12 rather than the camera position as limitation [2] specifies. The Clendenin et al. operator controls the azimuth and elevation gimbal position of gyro assembly 14 (and mirror 12)

by means of joy stick thumb controller 71 which provides control signals to servo circuits 56.

Clendenin et al., col. 7, line 62 - col. 8, line 50; col. 12, line 61 - col. 13, line 4.

The Clendenin et al. operator does not control the position of the Clendenin et al. camera.

5 *Limitation [3]*

The examiner cites Kujirada (Abstract and Fig. 1) as disclosing applicants' limitation [3], "transmitting said captured mobile images by radio frequency transmission to a data storage server for further processing." 01/27/05 Office Action, p. 21. What Kujirada actually discloses is: "Video data, position coordinate data, date data, and vehicle data from each vehicle 3-5 are transmitted through a radio communication network AND AN INTERNET 1 to a video managing computer 2" Kujirada, Abstract. Transmitting the captured images to a processing data storage server by radio frequency transmission is not the same as transmitting video data to a managing computer first through a radio communication network and then through a network (i.e. internet 1).

15 Kujirada does not disclose applicants' limitation [3].

Even if limitation [3] were disclosed by Kujirada, there would be no motivation for a person skilled in the art to combine the inventions of Clendenin et al. and Kujirada. The problem solved by the Kujirada invention is "to provide a video filled with a sense of presence in outdoor according to the taste or request of a user by image pick-up of a scene viewed from a vehicle, 20 and transmitting it by radio in real time while maintaining relative position data." Kujirada, Abstract. The Clendenin et al. invention, however, has to do with acquiring targets with a laser designation and ranging system. It does not seem like there would be a need for utilizing radio

communications and precious bandwidth for communicating "a sense of presence" while the Clendenin et al. invention, mounted on a tank or helicopter, is busy acquiring targets with a laser designation and ranging system.

There is nothing in either Clendenin et al. or Kujirada that would motivate a person skilled in the art to combine the two inventions and thereby obtain the equivalent of applicants limitation [3].

Limitation [4]

The term "internet" referred to in limitation [4] is the well-known Internet, the global communications network consisting of thousands of networks typically interconnected with fiber optic cabling. Internet 1 referred to in Kujirada seems to be a more-or-less ordinary communication network. There is nothing in Kujirada that suggests limitation [4], "providing said captured mobile images on internet server for official or consumer access."

"**To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.** *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970)." MPEP § 2143.03.

The prior art cited by the examiner does not disclose the limitations in boldface of claim 25. Since none of the boldface limitations of claim 25 are disclosed by the prior art, there is no way that a person skilled in the art would be motivated to incorporate such limitations in the Clendenin et al. invention.

The examiner has not established the *prima facie* obviousness of claim 25.

CONCLUSIONS

5 Twenty-two claims of this application were rejected for obviousness even though one or more limitations of each of the 22 claims were not disclosed by the prior art. In two office actions the examiner has consistently insisted that all of the limitations of the 22 claims are disclosed in the prior art, but they are not.

For example, in claim 1, applicants claim a pan and tilt camera whereby the field of view
10 of the camera can be pointed in a variety of directions in the azimuthal plane and in an elevation plane. The principal reference (Clendenin et al.) discloses a camera which can be panned but cannot be tilted. Clendenin et al. provide a tiltable mirror separate from the camera to allow the field of view seen by the camera to be obtained in a variety of directions in the elevation plane. The examiner concluded from this that the Clendenin et al. camera can pan and tilt because the
15 Clendenin et al. sight assembly (which includes the camera and the tiltable mirror) can track an object over $\pm 160^\circ$ in azimuth (pan) and $\pm 15^\circ$ in elevation (tilt). The problem with the examiner's argument is that applicants are claiming a camera structure—not a capability for tracking an object in both azimuth and elevation.

Another example is applicants' claim 15 which claims a bimetal heat sink and the
20 reference cited by the examiner (Baumeister) discloses a structural support member as being a heat sink. There is no disclosure in Baumeister of a bimetal heat sink. When this was pointed out to the examiner, he simply reiterated his previous assertion that Baumeister discloses heat

sink 14 and thereby discloses applicants' BIMETAL heat sink. A bimetal heat sink is not a conventional heat sink, and a disclosure of an ordinary heat sink is not a disclosure of a bimetal heat sink.

Each of the 22 claims rejected by the examiner contains one or more patentable features
5 not disclosed in the prior art. To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art, and this, the examiner has been unable to demonstrate. Thus, the examiner has also failed to establish the obviousness of claims 1-11, 14-15, and 17-25.

The examiner's rejection of claims 1-11, 14-15, and 17-25 should be reversed.

APPENDIX

1. A mobile pan and tilt camera and display-control apparatus comprising:
 - 5 a fully rotatable camera attached to a mount assembly that is mounted to a vehicle for capturing mobile images;
 - 10 a display-control box having an image display screen and control buttons for controlling said camera and its movement, said display-control box being attached to an adjustable mount in said vehicle within an operator's view and reach;
 - 15 an image capture box for receiving said captured mobile images.
 2. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein full rotation is achieved by mounting said camera to a tilting mechanism mounted on a panning mechanism.
 - 15 3. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said mount assembly incorporates a quick disconnect mechanism.
 - 20 4. A mobile pan and tilt camera and display-control apparatus as claimed in claim 3 further comprising a double locking mechanism on said mount assembly where one mechanism is a security fastener.

5. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
further comprising a water seal attached to said tilting mechanism.

6. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
5 wherein said mount assembly is adapted to engage the roof-rack of a vehicle.

7. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
wherein said mount assembly is adapted to engage a THULE® brand roof rack system.

10 8. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
further comprising a ball-plunger for self-locking said mount assembly.

15 9. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
further comprising a security fastener as a secondary and operator activated mechanical locking
mechanism for said mount assembly.

20 10. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
further comprising a singular support for both said panning mechanism and said tilting
mechanism and separate drive gears and slip clutches for both said panning mechanism and said
tilting mechanism.

11. A mobile pan and tilt camera and display-control apparatus as claimed in claim 10

wherein each slip clutch comprises:

5 a rotationally free gear;
 a support housing for gear;
 a friction pad co-aligned to said gear between said gear and said support housing;
 a wave washer to apply a pressure against said rotationally free gear and said support housing of sufficient force to enable a motor to drive said gear and said support housing to a point where said support housing stops rotating and said rotationally free gear breaks friction of said friction pad while said motor continues to drive without overheating.

10 12. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a camera enclosure with bezel opening that is threaded to accept optical filters and is sealed with an o-ring for moisture blocking.

15 13. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a Field of View (FOV) stabilized camera which provides an electronic compensation to overcome mechanical gear backlash and vibration.

20 14. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 wherein said camera may be mounted at any angle with respect to gravity.

15. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1 further comprising a bimetal heat sink for camera power supply temperature control.

16. A mobile pan and tilt camera and display-control apparatus as claimed in claim 12
wherein said camera enclosure is adapted to act as an additional heat sink.

5 17. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
wherein said camera enclosure incorporates a one-way moisture passage plug with flexible and
sealed passage for wires.

10 18. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
wherein said display-control box has a set of control buttons positioned to be operated with a
single hand.

15 19. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
wherein said display-control box has a viewing angle adjustment lever positioned to be operated
with said single hand.

20. A mobile pan and tilt camera and display-control apparatus as claimed in claim 1
further comprising an optically clear or tinted sphere enclosing said camera.

20 21. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2
wherein said mount assembly mates to a YAKIMA^R brand roof rack system.

22. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate to mate to a light bar used on emergency and patrol guard vehicles.

5 23. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly is adaptable to a rail road locomotive attachment.

24. A mobile pan and tilt camera and display-control apparatus as claimed in claim 2 wherein said mount assembly includes an adapter plate for ship-board attachment.

10

25. A process for viewing a scene with mobile pan or tilt camera of claim 1 comprising the steps of:

mounting said camera to a vehicle for capturing mobile images;

displaying said captured mobile images on an image display screen;

15 controlling camera position from within said vehicle;

capturing said captured mobile images in an image capture box for storage and transmission of said captured mobile images; and

transmitting said captured mobile images by radio frequency transmission to a data storage server for further processing; and

20 providing said captured mobile images on internet server for official or consumer access.